

C) REMARKS**Claims 1, 6-9, 10 and 15-18**

The Examiner rejected claims 1, 6-9, 10, and 15-18 under 35 USC § 103(a) as being obvious over U.S. Patent Application Publication No. 2003/0234217 (Perriello) in view of U.S. Patent No. 6,200,470 (Romero) and U.S. Patent No. 6,245,237 (Blough). Perriello, Romero and Blough teach methods and apparatuses for the *permanent* transformation of wastewater treatment systems into aerobic wastewater treatment units. The method and apparatus of the present invention is disclosed, and is now claimed, to be a *temporary* remediation measure for the conventional "passive" aerobic wastewater system that relies almost exclusively on the presence of anaerobic bacteria in the system to serve as the "workhorse" for the system.

That is, passive aerobic septic systems have been the dominant design for many years in the experience of this inventor. Such systems are the least expensive to install, require no daily operating costs, require little maintenance, and have a robust process. However, such systems do have their shortcoming and that is in the area of the soil absorption component. Because they are passive, they have no moving components. They also utilize very low technology. The only maintenance that can typically be performed is the periodic pumping to remove accumulated solids, and perhaps periodic inspection of the durable inlet and outlet baffles. Because they rely on anaerobic bacteria, the process is minimally adversely affected by shock loading and abuse.

Although the passive systems are the preferred treatment process by most municipalities and homeowners, they have a finite life. The typical limiting factor of service life is the distribution component, i.e. the absorption field. The absorption field,

or "leach" field, also operates using an anaerobic process. This process creates a layer known as a biomat at the interface of the constructed field and the surrounding virgin soil. Over time, this biomat grows thicker and becomes less permeable and eventually leads to failure. The failure mode is the inability of the distribution component to accept and disperse the effluent.

It has been shown that converting the leach field to an aerobic environment, by introducing aeration mechanisms in the wastewater system and fostering the growth of aerobic bacteria in the system, reverses the growth of the biomat and restores the field so it again will accept and distribute effluent. The industry norm is to keep the system aerobic indefinitely. Generally speaking, this will keep the biomat reduced to a minimal mass and will rely upon the aerobic process to treat the wastewater. There are, however, huge shortcomings of continued use of the aerobic process. The first is cost and the second is stability. Because aerobic systems are active, they require mechanical equipment to support the process. Such mechanical devices, under constant use, have a finite life and require replacement and maintenance. And they still require the periodic pumping of the septic tank, which is not avoided. Additionally, these devices consume energy. The concept of utilizing a temporary aerobic remediation process rather than as a primary permanent process is, in the view of this inventor, much preferred.

Returning to the specific rejection of claims 1, 6-9, 10, and 15-18 as being obvious over Perriello in view of Romero and Blough, applicant recites that three basic criteria must be met in order to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability is the essence of impermissible hindsight. *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999). In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. For example, see *Teleflex v. KSR International*, 119 Fed. Appx. (Fed. Cir. (Mich.) Jan. 6, 2005, No. 04-1152).

The method and apparatus of the present invention provides for remediation of a failing anaerobic wastewater treatment system by temporarily introducing oxygen to the anaerobic environment, thus temporarily transforming it to a wastewater treatment system using aerobic bacteria. The introduction of oxygen into a normally anaerobic system is beneficial in that it reduces the biomat that accumulates, particularly in the leach field as described above. Once the biomat is reduced, however, the septic system can be returned to its anaerobic state. That is, the method and apparatus of the present invention can be disconnected and removed altogether. In fact, aerobic treatment should be discontinued after the wastewater system is remediated for several

reasons, including the expense of operating the aerobic system (i.e., electricity). Secondly, as with all mechanical devices, there is an increased potential for mechanical breakdown as well increased requirements for maintenance and monitoring of pumps and compressors. It is also known to this inventor that aerobic systems are more easily overloaded than anaerobic systems. That is, considering all criteria, an aerobic system is, overall, less efficient than its anaerobic counterpart, thus making it more desirable to operate the system as an anaerobic one with occasional aerobic activity as required to reduce the biomat. Additionally, aerobic systems tend to release more nitrates into the groundwater than an anaerobic septic system. Lastly, lower temperatures tend to slow down most biological processes, thus, cold weather can adversely affect the performance of aerobic units as compared to anaerobic systems. None of the above-cited references teach or suggest an apparatus for the temporary conversion of an anaerobic wastewater treatment system to an aerobic treatment system. As such, the applicant respectfully suggests that claims 1 though 18, particularly as amended, are in position for allowance.

Claims 2-5 and 11-14

The Examiner also rejected claims 2-5 and 11-14 under 35 U.S.C. 103(a) as being obvious over Perriello in view of Romero and Blough, and further in view of U.S. Patent No. 6,475,395 (Schmit), U.S. Patent No. 6,096,203 (Drewery), U.S. Patent No. 5,549,818 (McGrew), U.S. Patent No. 5,490,935 (Guy) and U.S. Patent No. 5,221,470 (Mckinney). The applicant respectfully suggests that claims 1 and 10, as amended, are believed to be in position for allowance for the reasons mentioned above. As such,

claims 2-5 and 11-14 are also believed to be in position for allowance as they depend from allowable claims.

Claims 1-4, 6-7, 9, 10-20

Claims 1-4, 6-7, 9, 10-20 were rejected under 35 USC § 112(2) for failure to particularly point out and distinctly claim the invention. Certain of those claims have been amended and for the following reasons.

Claims 1 and 10, have been amended to recite the words "attached" or "being attached" to replace the word "attachable."

Claims 2 and 11 have been amended in accordance with the Examiner's recommendation.

Claims 3 and 12 have been amended in accordance with the Examiner's recommendation as well.

Claims 4 and 13 have been cancelled.

Claims 6 and 15 have been amended to replace "tubing" with "tube" which has antecedent basis in claims 1 and 10, respectively.

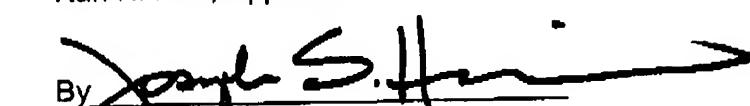
Claims 7 and 16 have been amended in accordance with the Examiner's suggestion.

With regard to claims 9 and 18, as discussed in the specification, "mobile and portable" mean those tanks that can be found in objects including, but not limited to recreational vehicles, camping trailers, boats, etc. Accordingly, those claims have been amended to make the claim language consistent with the disclosure as found in the specification, starting at page 18, line 11 through page 19, line 7.

Lastly regarding claims 19 and 20, the method of the present invention provides a method for remediating an anaerobic septic system as well as a method for treating wastewater. However, the important aspect of remediating the anaerobic septic system is by temporary conversion of an anaerobic wastewater treatment system to an aerobic system to reduce the build up of biomat in the system. Therefore, the claim terminology is correct, but the Examiner is also correct in that a byproduct of the method for a remediation is, in and of itself, a wastewater treatment method.

The applicant has provided a new, useful and non-obvious method for inexpensively and temporarily converting an anaerobic septic system to an aerobic system for a period of time to reduce the biomat created by anaerobic bacteria that reduces the performance of the anaerobic system. For his ingenuity, he is entitled to the protection of the United States patent laws. Allowance of the remaining claims, as amended, is respectfully requested.

Respectfully submitted,
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